



Drinking Water & Groundwater PFOA Contamination Frequently Asked Questions

Updated April 21, 2016

Introduction

The New Hampshire Department of Environmental Services (NHDES) is investigating the presence of perfluorooctanoic acid (PFOA) in drinking water in southern New Hampshire. PFOA belongs to a group of chemicals (perfluorinated compounds or PFCs) used to make household and commercial products that resist heat and chemical reactions and repel oil, stains, grease and water. PFOA was widely used in the production of such products as non-stick pots and pans, carpets, and water-resistant outerwear; a related substance known as PFOS was widely used in firefighting foam. PFOA typically is not part of the final products used by consumers. Although PFOA has been phased out of production in recent years, PFOA does not break down easily and, therefore, is very persistent in the environment. Due to its toxicity and persistence in the environment, PFOA poses potential adverse effects to human health and the environment.

In late February 2016, Saint-Gobain notified NHDES of the detection of PFOA in water samples taken from four faucets at its Merrimack facility at levels of 30 parts per trillion (ppt). Water at the facility is provided by the Merrimack Village District Water Works (MVD), a public water supplier. Saint-Gobain voluntarily tested the water at the Merrimack facility following detections of PFOA in water supplies in Hoosick Falls, New York and North Bennington, Vermont near other Saint-Gobain facilities. Because materials containing PFOA had been used at the Merrimack facility, Saint-Gobain voluntarily tested its drinking water supply and is currently testing the groundwater at that facility.

What do we know about contamination in the communities of Merrimack and Litchfield drinking water and groundwater and what actions are being taken?

In March 2016, NHDES began sampling the MVD drinking water supply wells, and private drinking water wells in the communities of Merrimack and Litchfield located within a one-mile radius from the Saint-Gobain facility (approximately 200 wells). Further sampling is ongoing. The MVD serves over 25,000 customers in Merrimack. Water from the MVD is also provided to portions of Bedford through service by Pennichuck Corporation. Pennichuck Corporation also sampled their supply sources that provide water to the city of Nashua and portions of Litchfield.

The United States Environmental Protection Agency (EPA) has not yet set an enforceable drinking water standard for PFOA under the federal Safe Drinking Water Act. EPA has, however, established a Provisional Health Advisory (PHA) for PFOA of 400 ppt. That level is set based upon short-term, acute contact, and the EPA is currently developing guidance for long-term, chronic exposure levels, which it anticipates releasing in the near future. EPA's Region 2 office has set an Advisory Level of 100 ppt in connection with the drinking water contamination in Hoosick Falls, New York. The State of Maine has evaluated PFOA exposure risks based on an analysis of the peer reviewed literature and has established a standard of 100 ppt for PFOA in drinking water. Based on the New York and Maine standards, NHDES established 100 ppt as the level at which it would be recommended that residents use **bottled water** for drinking, cooking and brushing their teeth, until a new federal Lifetime Health Advisory level was established by the EPA. Additionally, NHDES expanded bottle water to approximately 400 properties in Litchfield, Manchester and Merrimack that are served by private wells and are within and abutting a 1-mile radius of the Saint-Gobain Performance Plastics plant in Merrimack to help protect the public's health based on data that indicate an area of contamination of private drinking water wells, a

number of which contain greater than 100 ppt of PFOA. All residents of Merrimack and Litchfield living within the current 1-mile investigation radius who get their water from private drinking water wells (not through Merrimack Village District Water Works or Pennichuck Water), as well as those on the following streets outside of the radius, now qualify to receive bottled water: Century Avenue, Courtland Avenue, Lance Avenue, Jeff Lane, Mike Lane, Ronisa Avenue, Ivy Way, Robyn Avenue, Acorn Way, Oak Drive, Sybil Lane, Garden Drive and 381-450 Charles Bancroft Hwy (north of Midway Ave. and south of Strawberry Lane). This also applies to residents of Manchester on Brown Avenue south of Raymond Wieczorek Drive.

What is the source of the PFOA?

PFOA is commonly present at low levels in the worldwide environment. Based on the fact that PFOA was used at the Saint-Gobain facility in Merrimack, the company is undertaking a soil and groundwater investigation at its facility to determine if releases to soil or groundwater have occurred that may have resulted in the detections of PFOA in groundwater in the vicinity of the facility. NHDES is overseeing this investigation and will evaluate the need for additional testing at the facility once the results of the initial investigation are available. NHDES is also evaluating whether the PFOA that was historically emitted into the air with the facility's air emissions. Those permitted releases may be one of the sources of PFOA in groundwater, but that link has yet to be confirmed through testing and analysis. PFOA air emissions were phased out by the facility beginning in 2007 under an Administrative Order by Consent between the facility and NHDES, and the current emissions reported by the facility to NHDES are at or near zero. NHDES is also investigating whether other potential sources of PFOA are present in the area.

Well sampling radius

NHDES started by sampling wells within an approximate one-mile radius of the Saint-Gobain facility. This sampling radius has been expanded to a 1.5-mile radius based on well sample results outside of the one-mile radius above 100 ppt. NHDES will conduct additional sampling as necessary to fully define the geographic boundaries of the affected area.

Should I drink the water from my supply well or use it for cooking?

At this time, NHDES is advising that residents with PFOA in their drinking water at levels at a concentration of greater than 100 ppt, or within the expanded area defined in the NHDES April 7, 2016 press release (<http://des.nh.gov/media/pr/2016/20160331-bottled-water.htm>), not to drink or cook with their water. NHDES is supplying affected residents with bottled water while it awaits further guidance from EPA on appropriate lifetime (chronic) exposure levels to PFOA, and while NHDES explores more permanent solutions for these residents. Such remedies could include an individual home treatment system (such as a Point of Entry Treatment System) or connection to a neighboring public water supply.

What about teeth brushing?

Consistent with NHDES' recommendation not to use tap water with levels of PFOA greater than 100 ppt for drinking or cooking, NHDES also recommends that bottled water be used for brushing teeth.

Is it OK to shower or bathe with impacted water?

The EPA does not believe that routine showering or bathing would result in significant exposure to PFOA. A minimal amount of inhalable water droplets (aerosols) are formed during showering or bathing. PFOA also has a very low evaporation rate, which further minimizes inhalation exposure. Nonetheless, the use of bathroom ventilation systems and opening bathroom windows while showering or bathing can help remove the water vapor or aerosols that form during showering or bathing.

Similar to inhalation exposure, potential absorption of PFOA through the skin while showering or bathing is also not a significant exposure. Studies have shown very limited absorption of PFOA through the skin, and the movement of PFOA through the skin is extremely slow. However, as a precautionary measure and given the limited information on skin exposure, children or people with skin conditions (for example, rashes, cuts and abrasions) should avoid prolonged contact (such as long showers or long baths) with PFOA-contaminated water.

Can I use a humidifier?

If your water source showed PFOA greater than 100 ppt, NHDES recommends the use of bottled water for a humidifier.

Can I do laundry and wash my dishes?

Yes. Doing laundry and washing dishes is not likely to result in significant exposure to PFOA. If washing dishes by hand, you can minimize exposure by wearing rubber gloves if you have a rash, cut, or abrasions on your hands.

Will boiling my water remove PFOA?

No. Boiling water does not diminish the concentration of PFOA.

Would an in-home treatment system help to filter the PFOA out of the water?

Carbon filtration and reverse osmosis are two technologies that can remove low levels of organic contaminants, such as PFOA, from water. While there are currently no commercially available point-of-use (POU) filters (filters attached to a tap) or whole-house filters that are specifically certified by the National Sanitation Foundation to remove PFOA, it is expected that any activated carbon or reverse osmosis system will have the capability of reducing PFOA levels. The Minnesota Department of Health tested several POU water treatment devices and found many to be effective (for a summary, visit <http://www.health.state.mn.us/divs/eh/hazardous/topics/pfcs/wateranalysis.html>). If a treatment unit is used, it is important to follow the manufacturer's guidelines for installation, maintenance and operation. Moreover, testing of the treated water periodically would be necessary to ensure that the PFOA level remains below the EPA's health-based level. Refer to NHDES' Fact Sheet, *In-Home Water Filtration Options for PFOAs in Household Drinking Water* (<http://des.nh.gov/organization/commissioner/documents/pfoa-treatment-options.pdf>), for additional information.

Is it OK to eat vegetables from my garden?

To NHDES' knowledge, no gardens in southern New Hampshire have been tested for PFOA (as of 4/8/2016). According to the EPA (<https://www.epa.gov/chemical-research/research-perfluorooctanoic-acid-pfoa-and-other-perfluorinated-chemicals-pfcs>) a number of studies have evaluated the absorption into plants of the whole class of perfluorinated compounds (of which PFOA is one). Absorption into plants depends on the molecular size of the particular perfluorinated compound and its chemistry. Smaller-sized compounds have more uptake. PFOA is a relatively large compound and has lower uptake. Absorption also differs by the type of produce. Root vegetables that grow in the ground and leafy green vegetables (for example, lettuce) generally have greater absorption of chemicals, including PFOA. Soil also has a tendency to adhere to the surfaces of root and leafy vegetables. If PFOA is found in soil, thoroughly washing root and leafy green vegetables with water from a clean source will further reduce the minimal exposure to PFOA from growing produce in soil contaminated with PFOA and/or watering produce gardens with PFOA-contaminated water. One could also peel root vegetables prior to consumption to further reduce the potential for consuming soil potentially tainted by PFOA.

Should I be concerned about fishing in this area?

Currently, there is no specific advice to avoid fish due to risks associated with PFOA, as fish do not appear to significantly accumulate PFOA in their tissues. NHDES will consider testing fish tissue if data from the investigation suggest the need to do so. However, NHDES has issued statewide precautions regarding fish consumption due to the presence of mercury, which can accumulate in fish tissue. Refer to NHDES' Fact Sheet *New Hampshire Fish Consumption Guidelines* (<http://des.nh.gov/organization/commissioner/pip/factsheets/ard/documents/ard-ehp-25.pdf>) for additional information.

How can I get my private well tested?

If you have a private well within a 1.5-mile radius of the Saint-Gobain facility, NHDES will test it. NHDES has already collected samples from many properties within this area and has attempted to contact other property owners within this area that NHDES suspects may have private wells. If you are located in an area of Merrimack or Litchfield, in or near the study area that is serviced by public water and you have a private well, please fill out the well sampling request form located here: <https://www.surveymonkey.com/r/NHDES-S-03-008> . If you have questions about whether your property is located within the sampling area, please refer to the sampling area map (<http://des.nh.gov/organization/commissioner/documents/pfoa-aerial-20160413.pdf>).

If you would like to test your own well, NHDES has prepared a list of laboratories that can perform the analysis. Refer to the Fact Sheet titled: *Laboratories Performing Testing for Perfluorinated Compounds (PFCs)* (<http://des.nh.gov/organization/commissioner/documents/pfoa-testing-labs.pdf>) for additional information..

NHDES recommends that private well owners test their well water every three to five years for a standard list of other pollutants commonly found in New Hampshire's groundwater (e.g., metals, volatile organic compounds, etc.). Additional information can be found on the NHDES *Be Well Informed Guide* (<http://xml2.des.state.nh.us/DWITool/>).

How long have I or my family been exposed?

NHDES does not know for how long or at what levels PFOA has been in the public drinking water supply or in private water supply wells. If you are concerned about the potential health effects associated with past exposure to PFOA, you should discuss this with your private physician.

What are the health effects from exposure to PFOA?

Studies have shown that nearly all people have some level of PFCs in their blood. Potential health effects from exposure to low levels of PFCs are not well understood. To date studies have been inconclusive as to whether PFCs can affect growth and development, hormone levels (including thyroid hormone), liver enzyme levels, cholesterol levels, immune function or occurrence of certain types of cancer. Further research is needed to determine whether exposure to low levels of PFCs can cause health changes in humans. The EPA states that existing evidence is too limited to support a strong link between PFCs and cancer in people.

What is being done?

NHDES is working to:

- a. Identify, control and clean up the source or sources of the PFOA contamination of the groundwater.
- b. Determine the full extent of the PFOA contamination.
- c. Achieve a permanent cleanup remedy for the groundwater contamination and any other possible contamination.

How can I get more information?

NHDES has a dedicated webpage with information about the PFOA water contamination investigation. NHDES will update this site as more information becomes available. Visit <http://des.nh.gov/organization/commissioner/pfoa.htm>.

How do I contact NHDES?

A dedicated public inquiry line has been established: (603) 271-9461.